Technics

Direct Drive Automatic Turntable System

SL-5

Operating Instructions

T4P is the standard mark for plug-in-connector type.
Products carrying this mark are interchangeable and adaptable among each other.

This apparatus was produced to "BS800: 1977"

Before operating this product, please read these instructions completely.

We want to thank you for selecting the SL-5.
For optimum performance, we recommend that you read these instructions carefully.

■ **Checklist of parts**

Turntable unit	1
Turntable mat	1
Mains cord	1
Phono cable	1
Ground earth wire	1
25 cm record adaptor	1

Note:
The operating instructions are commonly applicable to units of different colors.

Caution for safe use of this apparatus for UNITED KINGDOM model SL-5.

Caution

- This apparatus is double insulated, safety earth not required.

Important

- **The wires in this mains lead are coloured in accordance with the following code:**

Blue:	**Neutral**
Brown:	**Live**

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter **N** or coloured **BLACK**. The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter **L** or coloured **RED**.

This equipment should be disconnected from the mains when not in use.

Do not stand this unit on its side or turn it upside down when making connections as the turntable mat could come loose and damage the stylus. Make all connections to this unit before removing the packing materials.

Connections

Use the stereo phono cable to connect the turntable to your amplifier or receiver. Be sure that the white plugs are connected to the left channel sockets and the red plugs are connected to the right channel sockets. Plug the ground earth wire into the turntable's ground socket and connect the wire's spade lug to the amplifier or receiver's ground (GND) screw. Regarding the mains cord, plug the female end into the turntable AC socket and plug the other end into an AC wall socket. **(Fig. 1)**
Note that hum may occur if you neglect to connect the ground wire.

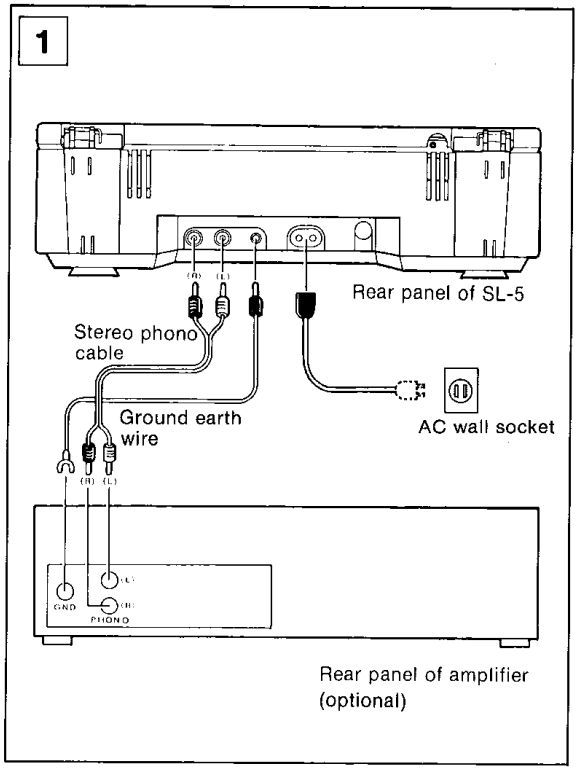
Before use

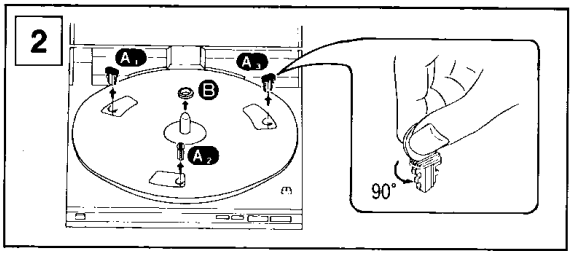
In order to avoid damage due to vibration or shock incurred during shipment, this unit is packed with protective materials Ⓐ Ⓑ Ⓒ Ⓓ. Be sure to remove these before use. Keep these materials for reuse should it become necessary to transport the turntable again.

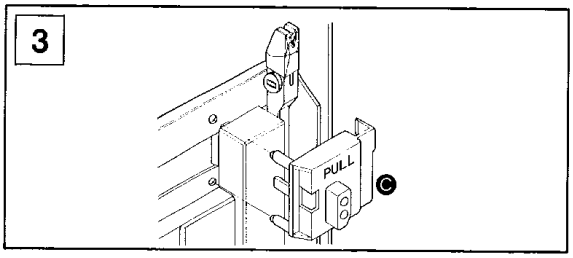
1. Remove turntable spacers Ⓐ1 ~ Ⓐ3 and the 45 rpm adaptor retainer ring Ⓑ. **(Fig. 2)**
2. Pull off the tonearm protection spacer Ⓒ. **(Fig. 3)**
3. Remove tape on side of cartridge Ⓓ. **(Fig. 4)**
   (This prevents the stylus assembly from shaking loose during shipment.)
4. Place the turntable mat on the platter. **(Fig. 5)**
   The mat has an opening which must be lined up with the raised section (the record detector) of the platter.

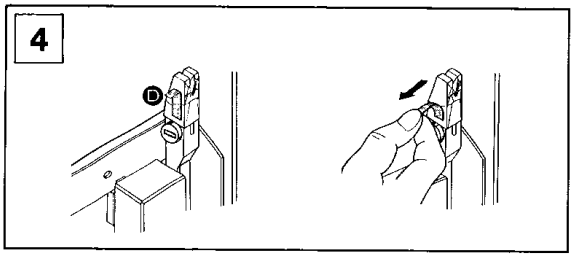
Placement

- **Place the unit in a stable and horizontal position where there is little or no vibration.**
- **Place the unit away from the speakers so that it will be subject to as little direct sound radiation as possible.**
- **Do not use or store this unit where it will be exposed to dust, dirt, high humidity or high temperature. Do not place it near heaters.**
- **Place it in a well ventilated location.**
- **Do not use under direct sunlight, spotlights, or other extremely bright light sources.**
- **Do not place it near or on top of a power amplifier, since power amplifiers radiate much heat.**
- **Place the turntable away from the power amplifier to prevent hum.**
  Hum may be caused by leakage flux from the transfomer in the power amplifier (or integrated amplifier). Therefore, if you notice hum, try moving the turntable to a slightly different location, further away from the amplifier.
- **If you try to listen to a radio near the turntable while it is turning, you may hear some interference.**


1
Rear panel of SL-5
Stereo phono cable
Ground earth wire
AC wall socket
GND
PHONO
Rear panel of amplifier (optional)


2
A1
A2
B
90°


3
PULL
C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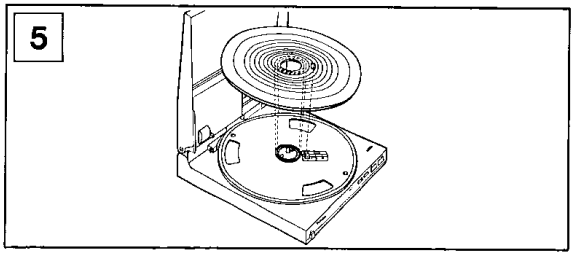
D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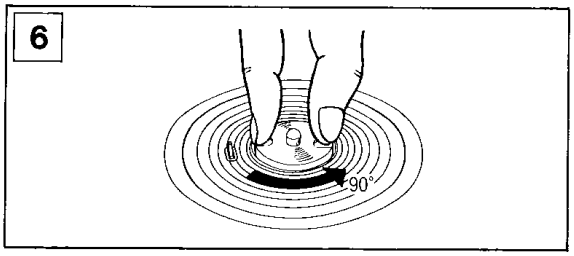
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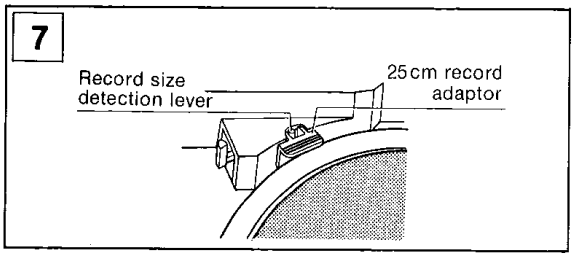
90°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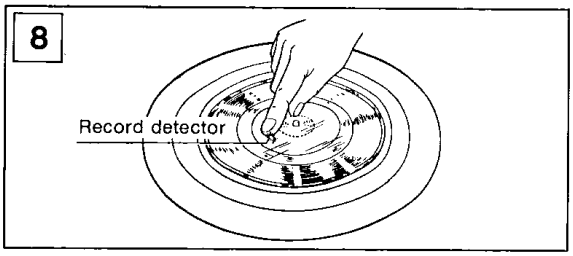
Record size detection lever
25cm record adaptor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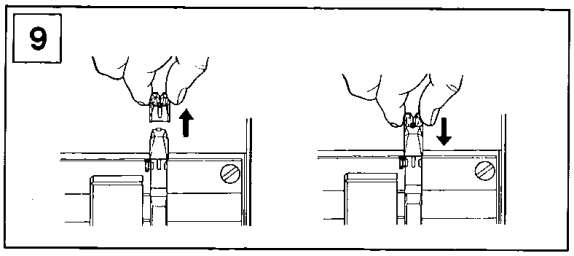
Record detector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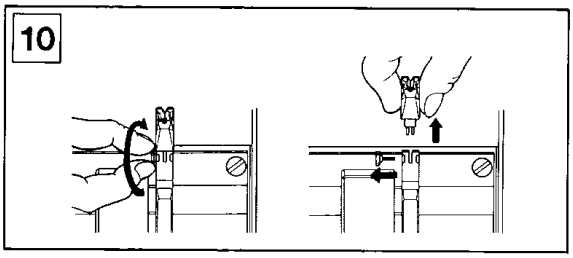
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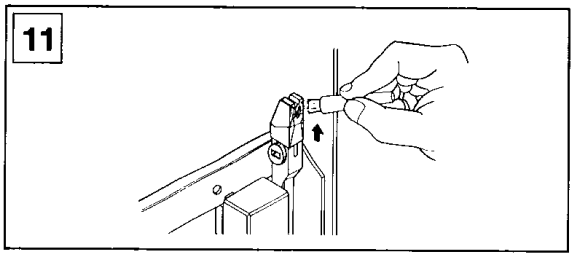
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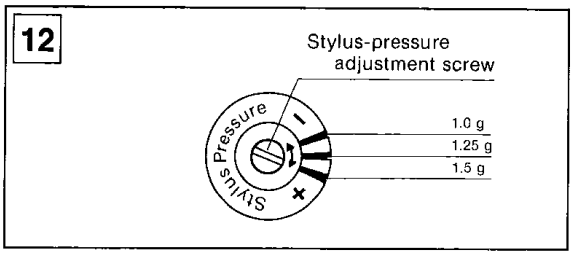
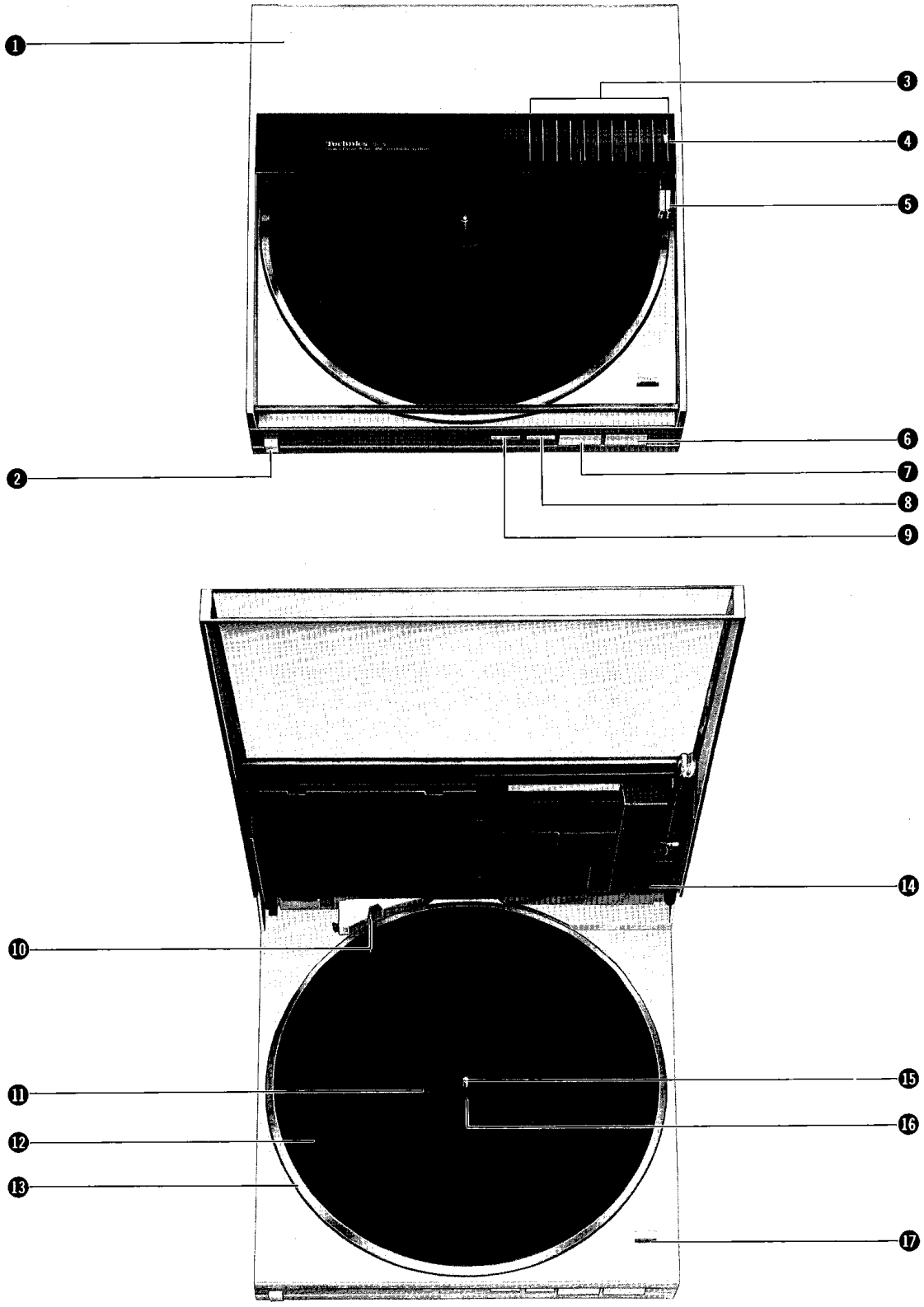

12
Stylus-pressure adjustment screw
Stylus Pressure
1.0 g
1.25 g
1.5 g

Parts identification



Functions

❶ Upper cabinet (Dust cover)

(Contains tonearm drive mechanism.)
Must be closed during play.

❷ On/off switch

off: This symbol indicates the **"stand-by"** mode, which means that when the switch is in this position, the unit is switched off but not entirely.
on: This symbol indicates **"on"**. Push to switch the unit on. Push again to switch the unit to the stand-by mode.

❸ Record groove scale:

This scale is graduated in 1 mm indications.
Useful for judging tonearm position.

❹ Tonearm position indicator LED:

When the on/off switch is turned on, the tonearm LED will light up. LED position corresponds to stylus position on the record surface.

❺ Cartridge

Replacement stylus: EPS-24CS

❻ Stop switch:

For stopping play (reject) and outward cueing.
When you press the stop switch (for less than one second), the tonearm automatically returns to the start position. (auto-return)
If you keep the switch depressed (for more than one second), the tonearm will move outward toward the edge of the record.
If you press the cueing control to raise the tonearm, and then press the stop switch intermittently, the arm will move outward in approximately 1 mm steps.

❼ Start switch:

For beginning play (auto-start, auto-lead-in) and inward cueing.
When you press the start switch, the tonearm automatically moves to the record's lead-in groove and starts playing. (auto-start, auto-lead-in)
If this switch is pressed during play, the tonearm will return to the start position and begin playing it over again.
If you keep the switch depressed, the tonearm moves inward toward the center of the record.
The tonearm will not move when you press the start switch if there is no record on the platter.

❽ Cueing control:

For interrupting play
Pressing the cueing control during play causes the tonearm to rise off the record. To resume play, press the control again. A muting circuit cuts out noise when the stylus initially contacts or leaves the record surface.

❾ Repeat switch:

For repeat play
When you press the repeat switch, an LED lights up and the record is played repeatedly from beginning to end.
When you want to stop this cycle, merely press the repeat switch again.
Pressing the stop switch will cause the tonearm to rise and return to the start position; it will also stop repeat operation.

❿ Record size detection lever:

Do not touch. This lever operates automatically to detect record size (30 cm, 17 cm).

⓫ Record detector

⓬ Turntable mat:

Do not use any turntable mat except the one supplied.

⓭ Turntable platter

⓮ Stylus-pressure adjustment screw

(See "Notes and maintenance" section for details)

⓯ Center spindle

⓰ 45 rpm adaptor:

Turn counterclockwise to raise for use. When not needed, turn clockwise to lower into platter.

⓱ Speed selector:

At the auto position, correct speed is selected automatically. However, speed must be manually selected in the case of 30 cm 45 rpm or 17 cm 33-1/3 rpm discs.

Operation

■ Auto-play

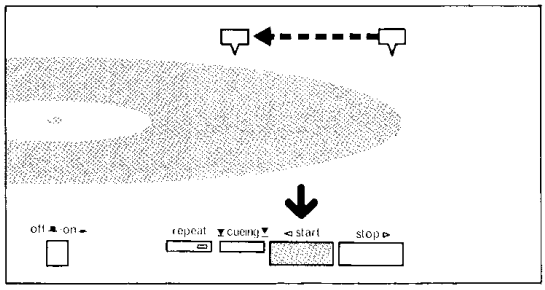
1. Open the upper cabinet gently.
2. Place a record on the turntable mat.
3. Close the cabinet gently.
   Note:
   Do not press controls until upper cabinet is closed.
4. Press the on/off switch to the on (▬) position.
   The tonearm position indicator will light up.
5. Press the start switch.
   Note:
   For proper operation, wait about two seconds after pressing the on/off switch before pressing any of the other switches. This assures dependable and accurate operation.
   The tonearm automatically selects the record size and speed (for 30 cm and 17 cm records only) and begins record play. (If no record is on the platter, it will stop after a few rotations and a clicking noise will be heard, indicating that there is no record; the tonearm does not move in this case.)
   At the end of the record the tonearm rises and automatically returns to the start position.
   (Auto-return)
6. After the tonearm returns to the start position, press the on/off switch to turn off the unit (▬).
   Note:

- If you press the start switch for less than one second while a record is being played, the tonearm returns to the lead-in groove and begins playing the record again. The LED of the repeat switch flashes on and off to indicate that this is happening.
- If the cabinet is opened during play, the tonearm returns to the start position.
  (When this occurs, the record size detection lever will make a noise as it touches the record; this does not indicate a malfunction.)
- If the on/off switch is turned off during play, the tonearm rises above the record and stays at that position.
  Then when the unit is turned on again, the tonearm will return to the start position.

■ Selective play

■ For inward cueing

- The tonearm will keep moving inward as long as you keep the start switch depressed (for longer than 1 second).



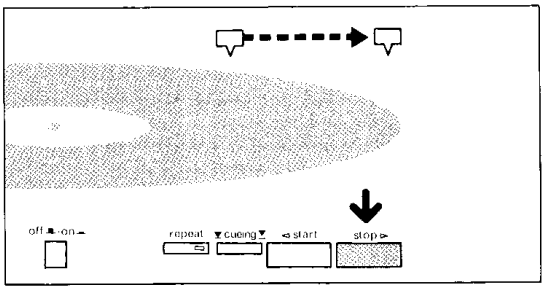
- If you press the start switch intermittently, the tonearm will move inward in small steps.
  When you release the start switch, the tonearm will stop at the position it has reached.
  Press the cueing control again to lower the tonearm back onto the record and begin play.

Refer to the Quick Reference Chart on the last page for more about start and stop operation.

Note:
A safety feature of this unit is that the tonearm can only be cued between the lead-in and lead-out grooves. Therefore, you cannot cue the tonearm all the way back to the start position at the edge of the platter in the case of 17 cm (7") record. Instead, press the cueing control once again to lower the tonearm onto the record, then press the stop switch.

■ For outward cueing

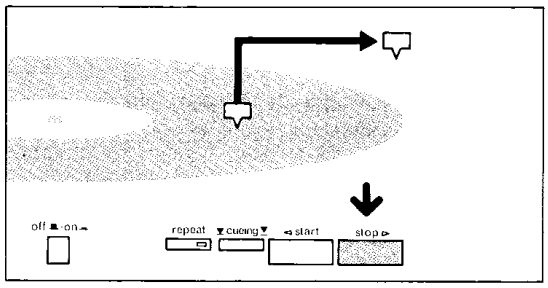
- The tonearm moves outward (towards the edge of the record) as long as you keep pressing the stop switch (for longer than 1 second).



- If you press the stop switch intermittently, the tonearm will move outward in small steps.
  The tonearm will stop at the position it has reached when you release the stop switch.
  When you press the cueing control again, the tonearm will be lowered onto the record and play will begin.

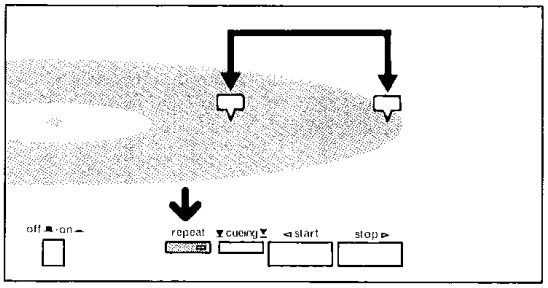
■ For auto-return or reject during play

- If you press the stop switch during play (without first pressing the cueing control), the tonearm will rise and return to the start position and the platter will stop rotating.
- Auto-return (reject) operation will not take place if the stop switch is depressed while the tonearm is raised above the record surface.



■ For repeat play

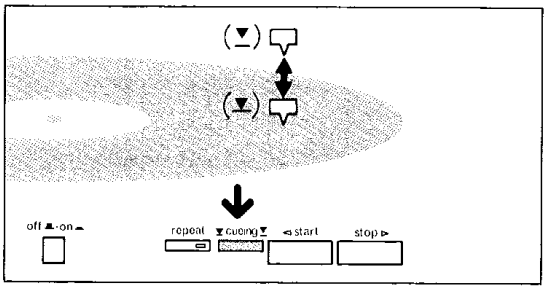
- Press the repeat switch and the repeat indicator LED will turn on to indicate that the record will be played again.



- To stop the repeat cycle, press the repeat switch again.
- Pressing the stop switch or on/off switch will also stop repeat operation.

■ For raising or lowering the tonearm during play

- When you press the cueing control, the tonearm rises up from the record surface.
- Press the cueing control again to lower the tonearm onto the record surface and begin play again.



■ For playing a 45 rpm record with a large center hole

1. To raise the 45 rpm adaptor, twist counterclockwise. **(Fig. 6)** Put on a record.
   (When adaptor is not needed, twist clockwise to lower it into the platter.)
2. Turn on the turntable and press the start switch.

■ The turntable may not perform as expected when playing the following kinds of records. This does not mean that there is anything wrong with the turntable. In such cases, follow the directions below.

■ 17 cm 33-1/3 rpm records.
■ 30 cm 45 rpm records.

Set the speed selector to the appropriate position, then press the start switch. Record size will be detected automatically and play will begin.

Note:
Ordinarily, the speed selector should be left at the auto-position.

■ 25 cm records
■ 17 cm records that do not meet the industry standard dimensions. (Too big)

1. Use the accessory adaptor for 25 cm records, as shown in the illustration **(Fig. 7)**, hold the record size detector in place (so it doesn't move), and put on the desired record.
2. Hold down the start switch so that the tonearm moves over to a position above the desired record's lead-in grooves.
3. Push the cueing control.
   Speed will be set to 33 rpm automatically.

Caution:

- This adaptor makes the turntable operate as if it were playing a 30 cm record. Therefore, if you simply press the start switch, the tonearm will set down on the empty part of the platter.
  You must keep the start switch held down until the tonearm moves over to a position above the lead-in grooves of your record, then press the cueing control to begin play.
- Be sure to remove the adaptor when playing ordinary records.

■ 17 cm records that do not meet the industry standard dimensions. (Too small)

Use the search (manual) function to move the tonearm to the desired position, then press the cueing control. Speed will be set to 45 rpm automatically.

■ Light, thin or badly warped records.

1. When you play the above records, ensure record detector is activated by pressing record down on to turntable. **(Fig. 8)**
2. Operate according to the directions in the auto-play section.

Note:

- **Repeat play is not possible for 25 cm records or records that do not meet the industry standard dimensions because size is not automatically detected.**
- **Set the speed selector to 33 or 45 depending on the correct speed for the record in question.**
- **If the turntable does not rotate because the record is too light to activate the record detector, put on two records together.**
- **In some cases it is not possible to play records that do not meet the industry standard dimensions.**

Replacement of stylus

Note:
Be sure you have the amp volume knob turned down all the way to avoid amplification of shock noise produced when handling the stylus and cartridge.
This unit is equipped with a diamond stylus.
The replacement stylus for this cartridge is EPS-24CS.
The life of the stylus varies according to the conditions of use. Noise or scratchiness may indicate a worn or damaged stylus. To prevent damage to your records, the stylus should be replaced at the first sign of wear.
You will have easier access to the stylus with the tonearm toward the center.
Therefore, follow the instructions below.

1. Place a 17 cm record on the turntable mat and close the cabinet.
2. Push the on/off switch to the on position (▬).
3. Press the start switch so the tonearm moves over to the center of the platter.
   (Having the tonearm in this position makes it easier to change the stylus.)
4. Push the on/off switch to the off position (▬) and open the cabinet.
5. Remove the old stylus. **(Fig. 9)**
6. Push in the new stylus assembly. **(Fig. 9)**

Replacement of cartridge

Plug-in connector cartridges are now available from Ortofon (Denmark), Shure (U.S.A), Audio Technica (Japan) as well as from Technics. All of these cartridges are designed for perfect matching with this turntable in all areas including weight, tracking force, stylus tip position, and center of gravity. Therefore, you have the option of employing a wide range of cartridges from the world's top manufacturers without the trouble of lead wire connections or tracking force adjustment.

1. Move the tonearm to the center of the platter by following the steps mentioned above. (Replacement of stylus)
2. Loosen the cartridge mounting screw completely, and remove the cartridge. **(Fig. 10)**
3. Insert the new cartridge firmly into place.
4. Tighten the mounting screw.

Notes and maintenance

■ **Auto-return operation will not function if you press the on/off switch while a record is being played.**
The tonearm will rise above the record surface but stay where it is.
Therefore, if you then press the switch again to turn it on, the tonearm will go back to the start position.

■ **Be sure to remove all dirt and dust from the stylus tip and the record.**
The cartridge stylus is an extremely delicate and precisely manufactured device designed for picking up the subtle nuances of the record grooves. Therefore, be very careful not to touch it, push on it, or apply excessive force in any way.
The stylus tip cannot retain proper groove contact when it is dirty. This causes bad sound reproduction and excess wear on the stylus tip and grooves. Therefore, use the brush to remove dust and dirt by brushing upward. **(Fig. 11)**
Also, use a good record cleaner to remove dust and dirt from the grooves.

■ **Wipe the cabinet with a soft, dry cloth.**
Never use volatile cleaners such as alcohol, benzene or thinner.
Do not use chemically treated dust cloths. Do not expose the panel to insecticide spray.
To remove stubborn spots, first pull out the AC plug.
Then wipe the cabinet with a soft cloth slightly moistened with a mild soap and water solution.
Do not wipe the upper cabinet during play, or the tonearm may be attracted toward the upper cabinet due to the generation of static electricity.

■ **Open the upper cabinet gently.**

■ **Always close the upper cabinet completely.**
If the upper cabinet is not completely closed, the stylus cannot contact the grooves properly and turntable will not operate correctly.
Check again before starting play.

■ **Adjust the stylus pressure in the following cases.**
Stylus pressure is normally set to 1.25 g but may be raised or lowered by ±0.25 g.
It may be necessary to increase stylus pressure when playing records cut at high levels, or when room temperature is low, or when the unit easily picks up external vibrations. This will help prevent distortion and groove-skipping.
In such cases, turn the stylus-pressure adjustment screw clockwise (+), as indicated in the illustration. **(Fig. 12)**
Note:
Do not turn the adjustment screw further than the set limits (1.5 g~1.0 g).

■ **Unplug from AC outlet if unit will not be used for an extended period of time.**

■ **Concerning speed adjustment:**
There is no need for speed adjustment. The unit was adjusted at the factory.

Suggestions for safety

Before using this unit, be sure to read applicable items of the operating instructions and these safety suggestions carefully; and afterwards keep them handy for future reference. Take special care to follow the warnings indicated on the unit itself as well as in the operating instructions.

1. **Avoid places where there is water or humidity.**
   Do not use this unit near a bathtub, washbasin, swimming pool, or the like. Damp basements should also be avoided.
2. **Do not allow water or any foreign object to get inside this unit.**
   Do not place small metal objects or anything containing liquid on or near the unit.
3. **Avoid placement of the unit where it will be exposed to the direct rays of the sun, or where ventilation is inadequate.**
   Do not place this unit in a bookcase or between cabinets, unless proper ventilation is provided, or where curtains or furniture may obstruct the ventilation holes.
4. **Place this unit away from heat-emitting appliances.**
   Never place this unit on or near a radiator, heat register, stove, or any other heat-emitting equipment (including amplifiers).
5. **Placement**
   Place the unit on a stable, vibration-free, level shelf or stand.
6. **Check the voltage rating of this unit before connecting the unit to a power source.**
   Be sure to connect the unit only to the type of power source indicated in the operating instructions, or as indicated on the unit itself.
7. **Care of the mains cord and plug.**
   Take care that the cord is not bent sharply (especially near its connection to the unit or near the plug), that nothing is placed on it, and that it is not pinched, crushed or frayed. Never take hold of the plug or cord if your hand is wet, and always be sure to grasp the plug body when connecting or disconnecting it.
8. **Maintenance**
   Refer to the operating instructions for details.
9. **Repairs**
   Except for adjustments explained in the operating instructions, do not attempt any repairs yourself. Be sure to request service from a qualified technician (or your dealer or nearest servicenter).

Specifications

■ General

Mains:	240 V AC, 50 Hz
Power consumption:	10 W
Dimensions:	31.5 × 8.8 × 31.5 cm
(W×H×D)	(12-1/2" × 3-1/2" × 12-1/2")
	31.5 × 39 × 31.5 cm
	(12-1/2" × 15-23/64" × 12-1/2")
	(Maximum height when top (dust cover) is open.)
Weight:	4.4 kg (9.7 lb.)

■ Turntable section

Type:	Direct drive
	Automatic turntable
	Auto start/Auto lead-in
	Auto return
	Auto stop
	Repeat play
	Auto speed select
	Manual speed selection possible
	Auto size select
	Record presence detection
Drive method:	Direct drive
Motor:	Brushless DC motor
Drive control method:	F·G servo control
Turntable platter:	Aluminum die-cast
	Diameter 30 cm (12")
Turntable speeds:	33-1/3 rpm and 45 rpm
	Auto speed select
	(Manual selection possible)
Wow and flutter:	0.012% WRMS*
	0.025% WRMS (JIS C5521)
	±0.035% peak
	(IEC 98A Weighted)

* Measured by obtaining signal from built-in frequency generator of motor assembly.

Rumble:	−56 dB (IEC 98A Unweighted)
	−78 dB (IEC 98A Weighted)

■ Tonearm section

Type:	Dynamic balanced type
	Linear tracking tonearm
	4-pivot gimbal suspension
Effective length:	10.5 cm (4-1/8")
Tracking error angle:	Within ±0.1°
Effective mass:	9 g (including cartridge)
Resonance frequency:	12 Hz
Tonearm drive motor:	DC motor
Phono cable capacitance:	150 pF

■ Cartridge section

Model No:	EPC-P24S
Type:	Moving magnet stereo cartridge
Magnetic circuit:	All laminated core
Frequency response:	10 Hz ~ 30 kHz
	20 Hz ~ 10 kHz ±1 dB
Output voltage:	2.5 mV at 1 kHz, 5 cm/s. zero to peak lateral velocity
	(7 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500])
Channel separation:	22 dB at 1 kHz
Channel balance:	Within 2 dB at 1 kHz
Recommended load impedance:	47 kΩ~100 kΩ
Compliance (dynamic):	12×10^{-6} cm/dyne at 100 Hz
Stylus pressure range:	1.25 ±0.25 g (12.5 ±2.5 mN)
Weight:	6.0 g (cartridge only)
Replacement stylus:	EPS-24CS

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

Quick Reference Chart for Start and Stop Operation

Pressed / Cueing up/down	Start Switch			Stop Switch		
	Switch pressed momentarily (less than one second)	Pressed intermittently	Pressed continuously	Pressed momentarily (less than one second)	Pressed intermittently	Pressed continuously
Cueing up (▼)	———	Tonearm moves inward in small steps.	Tonearm moves inward.	———	Tonearm moves outward in small steps.	Tonearm moves outward.
Cueing down (▼)	Tonearm rises and returns to start position and begins play again.	———	Tonearm rises and moves inward.	Auto-return (reject)	———	Tonearm rises and moves outward.

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